

In the Claims:

Kindly cancel claims 17-20 and 29.

Kindly amend claim 27.

1 – 26. (Cancelled)

27. (Currently Amended) A heat pipe comprising:

a rigid plenum having a vaporization region coupled to a condensation region through a center section;

~~a diamond wall defined in at least one of said vaporization region and said condensation region;~~

a capillary mass configured for fluid flow disposed in said plenum between said vaporization region and said condensation region; ~~and~~

a cooling fluid disposed in said plenum, said cooling fluid having a liquid phase and a vapor phase within said plenum; and

a diamond wall defined in at least one of said vaporization region and said condensation region, said diamond wall configured to transfer thermal energy from said cooling fluid in said condensation region.

28. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is configured to transfer thermal energy to said cooling fluid in said vaporization region.

29. (Cancelled)

30. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is configured to be mountable to said plenum.

31. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is configured to provide lateral heat spreading of hot spots.

32. (Withdrawn) The heat pipe of claim 27 wherein said plenum is entirely comprised of diamond.

33. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is a solid slab of diamond.

34. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is a portion of said plenum.

35. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall is metallized and is attached to said plenum with solder.

36. (Previously Presented) The heat pipe of claim 27 wherein said plenum defines an interior and an exterior, said diamond wall configured to contact with said interior and said exterior.

37. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall defines an interior portion and an exterior portion opposite said interior portion, said interior portion configured to contact with said cooling fluid.

38. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall defines an interior portion and an exterior portion opposite said interior portion, said exterior portion configured to contact at least one of a heat source and a cooled heat sink.

39. (Previously Presented) The heat pipe of claim 27 wherein said diamond wall defines an interior portion and an exterior portion opposite said interior portion, said interior portion configured to contact with said cooling fluid and said exterior portion configured to contact at least one of a heat source and a heat sink.